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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,939	02/23/2004	Erik J. Shahoian	IMMR-0052B	7661

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EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/782,939	Applicant(s) SHAHOIAN ET AL.	
	Examiner Regina Liang	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,12-20,22,23,26-33 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,12-20,22,23,26-33 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/5/07 has been entered. Claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 are pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. 6,184,868. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both are claiming the actuator being configured to output a haptic feedback to the moveable portion of the housing.

Two representative claims from the US Patent No. 6,697,043 and the instant application are compared in the following:

Claim 17 of the US Patent No. 6,184,868	Claim 1 of the instant application
17. A haptic feedback control device for inputting control signals to a computer and for outputting forces to a user of the control device, the control device comprising:	1. A device, comprising
a housing including a fixed portion and a moveable portion, wherein said user engages both said fixed portion and said moveable portion of said housing when using said device;	a housing having a fixed portion and a moveable portion, wherein the fixed portion is adapted to be engaged to a linkage mechanism, the moveable portion configured to move laterally with respect to the fixed portion;

a coupling coupled between said moveable portion and said fixed portion and allowing said moveable portion to move relative to said fixed portion in a direction parallel to an outer surface of said moveable portion, said portion of said outer surface being contacted by said user when said housing is grasped by said user; and	a flexure member coupled to the moveable portion and the fixed portion, wherein the flexure member is configured to allow selective movement of the moveable portion with respect to the fixed portion; and
an actuator coupled to said coupling, said actuator outputting a force on said coupling to cause said moveable portion to move with respect to said fixed portion.	an actuator coupled to the flexure member, the actuator configured to output haptic feedback to the moveable portion of the housing via the flexure member.

From the side-by-side comparison above, it is noted that claim 1 is broadening from claim 17 of the US Patent No. 6,184,868. As can be seen above, patented claim 17 differs from claim 1 of this application in not having the fixed portion is adapted to be engaged to a linkage mechanism. However, the patent claims are in comprising format and therefore covers structure not specifically recited. The patent disclosure clearly describes a linkage mechanism and is encompassed by the patent claims comprising format.

In view of the above analysis, applicant's claim 1 and patented claim 17 are not patentably distinct from one another and in the absence of a terminal disclaimer would result in an unjustifiable time wise extension of applicant patent. The above analysis also applies to the rest of the claims. As can be seen from the above, the claimed subject matter of the present application is compared with the claimed subject matter of the patented claim and that they are not patentably distinct from each other.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 is confusing as to “a linkage mechanism”, is it the same as “a linkage mechanism” recited in claim 1 or not?

Claim Rejections - 35 USC § 102

7. Claims 1, 3-9, 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Menahem (US Patent No. 5,142,931).

As to claims 1, 30, Menahem discloses a device (Figs. 1 and 2), comprising: a housing (10) having a fixed portion (20) and a moveable portion (10), wherein the fixed portion is adapted to be engaged to a linkage mechanism (mechanism components such as 94, 99, 105, etc. in Fig. 2), the moveable portion (10) configured to move laterally with respect to the fixed portion (20); a flexure member (46-60) coupled to the moveable portion (10) and the fixed portion (20), wherein the flexure member is configured to allow selective movement of the moveable portion with respect to the fixed portion (col. 4, lines 4-25); and an actuator (motor 124) coupled to the flexure member, the actuator (motor 124) configured to output haptic feedback to the moveable portion of the housing via the flexure member (see 6, lines 43-68 for example).

As to claim 3, Menahem discloses the haptic feedback is output based on an oscillation of a shaft of the actuator (col. 5, lines 29-36).

As to claim 4, Menahem discloses the flexure member includes a first flexure member (46) and a second flexure member (52), the first flexure member and the second flexure member being coupled between the moveable portion and the fixed portion (see Fig. 2), the actuator being configured to output the haptic feedback via at least one of the flexure members.

As to claim 5, Menahem discloses a manipulandum (the top portion of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum.

As to claim 6, Menahem discloses a manipulandum (the top portion of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum, the manipulandum is fixed in position with reference to the moveable portion.

As to claims 7, 8, Menahem discloses a button (on top of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the button (the haptic feedback is imparted to the hand grip 10 which includes the button).

As to claim 9, Salcudean discloses a sensor (bearings 48, 50 for sensing the rotation of the hand grip 10 about the X axis) coupled to the housing, the sensor being configured to detect a movement of the moveable portion with respect to the fixed portion.

As to claim 28, Fig. 1 of Menahem discloses the fixed portion (20) and the moveable portion (10) are configured to engaged by one hand of a user.

As to claim 29, Menahem disclose the input device having sensor (shaft 42, bearings 48, 50, 62, 64) for sensing the movement of the housing in x, y and z axis (six degrees of freedom) with respect to ground (fixed portion such as a base).

Claim Rejections - 35 USC § 103

8. Claims 1, 3-9, 12-20, 22, 23, 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salcudean et al. (US Patent No. 5,790,108) in view of Menahem (US 5,142,931).

As to claims 1, 30, Salcudean discloses a device, comprising: a housing (Fig. 1) having a fixed portion (12) and a moveable portion, the moveable portion (18) configured to move laterally with respect to the fixed portion (12, 13); a coupling member (platform 14) coupled to the moveable portion (18) and the fixed portion (12, 13), wherein the coupling member is configured to allow selective movement of the moveable portion with respect to the fixed portion (see Fig. 1); and an actuator (70, 72) coupled to the coupling member (14), the actuator (70, 72) configured to output haptic feedback to the moveable portion of the housing via the coupling member (see col. 4, lines 42-52 for example).

Salcudean disclose the input device can be a joystick (Fig. 8). Salcudean does not explicitly disclose the joystick housing is adapted to be coupled to a linkage mechanism coupled to ground. However, Figs. 1 and 2 of Menahem teaches a joystick housing is coupled to a linkage mechanism (shaft 42) coupled to ground (base 12). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the joystick of Salcudean to have a linkage mechanism as taught by Menahem so as to operate the joystick in

three axes easily.

As to claim 3, Salcudean discloses the haptic feedback is output based on an oscillation of a shaft of the actuator (see Fig. 7).

As to claim 4, Fig. 2 of Salcudean discloses the coupling member (platform 14) includes a first flexure member (rod 32) and a second flexure member (rod 34), the first flexure member and the second flexure member being coupled between the moveable portion and the fixed portion (Fig. 2), the actuator being configured to output the haptic feedback via at least one of the flexure members (col. 4, lines 42-52 for example).

As to claim 5, Salcudean discloses a manipulandum (18) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum.

As to claim 6, Salcudean discloses a manipulandum (18, Fig. 7) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum, the manipulandum is fixed in position with reference to the moveable portion (Fig. 7).

As to claim 7, Salcudean discloses a button (132, Fig. 8) disposed adjacent to the moveable portion, the haptic feedback being imparted to the button (col. 7, lines 42-50).

As to claim 8, Salcudean discloses a button (22, Fig. 7; 132, Fig. 8) movable in a degree of freedom disposed adjacent to the moveable portion, the haptic feedback being imparted to the button in the degree of freedom.

As to claim 9, Salcudean discloses a sensor (detector 66, col. 4, lines 19-42) coupled to the housing, the sensor being configured to detect a movement of the moveable portion with respect to the fixed portion.

As to claim 12, Salcudean discloses a device, comprising: a button (22, Fig. 7, 132, Fig.

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8) depressible along a degree of freedom; an actuator (124) coupled to the button; a sensor (col. 7, lines 51-58) configured to detect a displacement of the button along the degree of freedom; and a processor (Fig. 11) coupled to the actuator and configured to send a signal to the actuator based on the detected displacement, the actuator (124) configured to generate the haptic feedback at least along the degree of freedom based on the signal.

As to claim 13, Salcudean discloses the actuator (124, Fig. 7) is a voice coil.

As to claim 14, Salcudean discloses the actuator (124) includes a coil coupled to the button and a magnet coupled to a housing in which the button is disposed (see Fig. 7).

As to claim 15, Salcudean discloses the actuator (124) includes a magnet coupled to the button and a coil coupled to a housing in which the button is disposed (see Fig. 7).

As to claim 16, Salcudean discloses the sensor is an analog sensor configured to output a position signal, the position signal associated with a position of the button (see col. 7, lines 51-58).

As to claim 17, Salcudean discloses haptic feedback includes a vibratory force produced as a function of time (e.g. damping force).

As to claim 18, Salcudean discloses haptic feedback includes a spring force (128, 130, Fig. 7) produced as a function of the displacement of the button.

As to claim 19, Salcudean discloses the haptic feedback includes a damping force produced as a function of a velocity of the button because the button is connected to the spring.

As to claim 20, Salcudean discloses a flexure member (128, 130) coupled to the button and a housing in which the button is disposed.

As to claim 22, it is noted that Salcudean the force input device can be a mouse and a joystick but fails to mention a trackball. However, trackball is a well-known input device in the art. It would have been obvious to one of ordinary skill in the art to have applied the actuator of Salcudean for any kind of the cursor input device such as the trackball because the actuator can be fitted into different handheld input device.

As to claim 23, Salcudean discloses a housing, the button disposed in the housing; and a joystick coupled to the housing, the joystick configured to control a position of a graphical object (see Figs. 8 and 12).

As to claim 26, Salcudean discloses the actuator being a first actuator (70, Fig. 1), the device further comprising a second actuator (72, Fig. 1) configured to output a vibration.

As to claim 27, Salcudean discloses isometric controller (e.g. mouse or joystick) configured to control a position of a cursor in a graphical display (see Fig. 12).

As to claim 28, Fig. 1 of Salcudean discloses the fixed portion (12, 13) and the moveable portion (18) are configured to engaged by one hand of a user.

As to claims 29, 32, Salcudean disclose the input device having sensor (66 in Fig. 1, 166 in Fig. 10) for sensing the movement of the housing in x, y and z axis (six degrees of freedom) with respect to ground (fixed portion such as a base).

As to claim 31, Figs. 7, 8 of Salcudean discloses a button (22, 132) is integral to a housing (18, 137) having affixed portion (18, 137) and a moveable portion (22, 132), the fixed portion and the moveable portion configured to engaged by one hand of a user.

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As to claim 33, Figs. 1 and 2 of Menahem teaches the joystick housing is coupled to a linkage mechanism (shaft 42) coupled to ground (base 12).

Response to Arguments

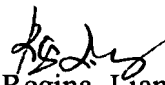
9. Applicant's arguments with respect to claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's remarks regarding Double Patenting rejection have been noted, however the rejection cannot be overcome without the filing of a terminal disclaimer.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Regina Liang
Primary Examiner
Art Unit 2674

5/7/07